

## **REMARKS**

Claims 1-96 are all the claims pending in the application, with claims 1, 42, and 83 being the only independent claims.

Claims 1-3, 12, 13, 17-19, 25-44, 46, 53, 54, 58-60, 66-88, and 90-96 stand rejected under 35 U.S.C. §102(b) as being anticipated by Lindemann et al. (U.S. 5,744,742). Claims 4-11, 20-24, 45, 47-52, and 61-65 stand rejected under 35 U.S.C. §103(a) as being unpatentable over Lindemann in view of Pattie (5,343,793) and Frick et al. (4,265,157). Claims 14-16, 55-57, and 89 stand rejected under 35 U.S.C. §103(a) as being unpatentable over Lindemann in view of Suzuki (5,981,859). Applicant respectfully traverses these rejections, and requests reconsideration and allowance of the pending claims in view of the following arguments.

### **Rejection under 35 U.S.C. §102(b)**

Claims 1-3, 12, 13, 17-19, 25-44, 46, 53, 54, 58-60, 66-88, and 90-96 stand rejected under 35 U.S.C. §102(b) as being anticipated by Lindemann.

#### **1. Lindemann discloses audio, not a control signal**

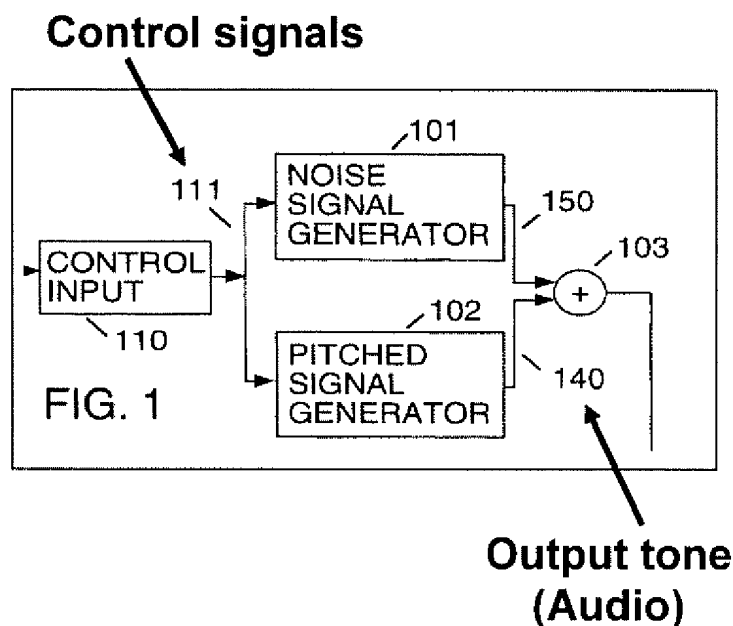
Claim 1 is directed toward a system for control signal generation and recites “a parameter signal processing unit . . . generating an outgoing control signal based upon said isolated overtone parameter signal.” Page 3 of the Office Action indicated that pitched part 140 of Lindemann teaches the above-identified claim element.

Applicant's review of Lindemann reveals a discussion relating to pitched part 140 being associated with audio output, not the claimed "outgoing control signal." Portions of Lindemann relating to this position are as follows:

"FIG. 1 shows a high level block diagram of a parametric signal modeling music synthesizer according to the present invention. In a typical configuration, a user 100 selects an instrument and requests a particular tone through an input device 110, such as a keyboard. Electronic control signals 111 typically specify at least the instrument and an initial pitch and intensity. Audio output 160 of this musical tone is the sum 103 of two components: a pitched part 140 generated by pitched signal generator 102, and a noise part 150 generated by noise signal generator 101. Separating a tone into these two components makes each component easier to model. Audio output 160 is then typically run through a digital-to-analog converter 162 to a speaker 164." (Col. 6, lines 10-22).

"FIG. 2 shows an intermediate level block diagram of pitched signal generator block 102 of the parametric signal modeling music synthesizer of FIG. 1. Control input 110 provides control signals 111, which control the instrument and pitch of the desired output tone 140." (Col. 6, lines 51-55).

Fig. 1 of Lindemann supports Applicants position and further discloses that pitched part 140 relates to audio, not the claimed "outgoing control signal." Presented below are relevant portions of Fig. 1 which have been annotated in accordance with the disclosure of Lindemann.



The forgoing figure and disclosure of Lindemann clearly establishes that pitched part 140 relates to audio, not the claimed “outgoing control signal.” Although Lindemann discloses control signals 111, such signals are apparently utilized by pitch signal generator 102 for specifying output tone 140. This output tone is part of an audio signal (audio output 160). Recall that Lindemann requires that “Audio output 160 of this musical tone is the sum 103 of two components: a pitched part 140 generated by pitched signal generator 102, and a noise part 150 generated by noise signal generator 101.” (Col. 6, lines 16-19).

It is the position of the Office Action that pitched part 140 of Lindemann teaches the claimed “outgoing control signal.” However, Applicant has established that the pitched part 140 is part of an audio signal (signal 160). Applicant emphasizes that control signals and audio signals are completely different types of signals. This is a well-known and elementary principle for which Applicant is prepared to submit supporting evidence, should the Examiner deem such

information necessary. For these reasons, Lindemann is deficient as an anticipatory reference since it does not teach or suggest the claimed “outgoing control signal” as required by claim 1.

## **2. Clarification requested: control signals vs. audio signals**

Applicant notes for the record that the Examiner of the present application has repeatedly utilized control signals of a reference to reject a claim reciting audio signals, as well as audio signals of a reference to reject a claim reciting control signals. Applicant surmises that the Examiner has the position that an audio signal is the same thing as a control signal. Applicant has requested clarification on this subject on prior occasions in related applications, but the Examiner has yet to provide the requested clarification.

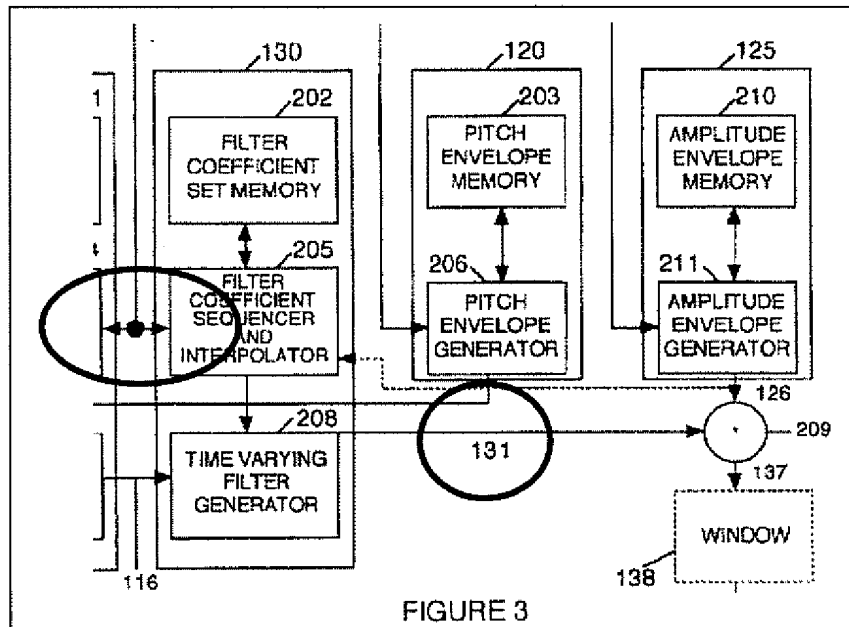
In the event the Examiner maintains the present rejection, it is requested that the Examiner clarify his position with regard to audio signals of the Lindemann patent. In particular, is it the Examiner’s position that control signals are equivalent to audio signals?

## **3. Envelope builder 125 does not provide amplitude measurement**

Claim 1 further recites “a separate signal parameter measurement element operatively coupled with each filter of said at least one bandpass filter.” Page 2 of the Office Action indicates that formant filter generator 130 teaches a “bandpass filter” and amplitude envelope builder 125 teaches a “signal parameter measurement element.” Applicant assumes *arguendo* that Lindemann provides such teachings.

Note further that claim 1 also requires a “bandpass filter adapted to . . . produce an isolated overtone signal,” and that the “signal parameter measurement element . . . provides amplitude measurement of said isolated overtone signal.”

In order for Lindemann to teach the just-stated claim element, generator 130 (bandpass filter) must produce an isolated overtone signal. Moreover, Lindemann must also teach that envelope builder 125 (signal parameter measurement element) provides amplitude measurement of the isolated overtone signal (i.e., the signal produced by generator 130). Provided below is the relevant portion of Fig. 3 of Lindemann.



Applicant further assumes for the sake of argument that the output of generator 130 (bandpass filter) produces an isolated overtone signal. Even if this were correct, envelope builder 125 (signal parameter measurement element) never provides amplitude measurement of this isolated overtone signal. The reason is simple; the output of generator 130 (i.e., the isolated overtone signal) is never presented or otherwise provided to envelope builder 125 in order for the envelope builder 125 to provide the required amplitude measurement of this signal. Fig. 3 of Lindemann is unmistakably clear on this point.

Lindemann therefore does not disclose that envelope builder 125 (signal parameter measurement element) provides amplitude measurement of an isolated overtone signal (i.e., a signal produced by generator 130). As such, Lindemann cannot teach a “signal parameter measurement element . . . provides amplitude measurement of said isolated overtone signal” as recited by claim 1.

#### **4. No amplitude measurement**

Recall that claim 1 requires a “signal parameter measurement element provides amplitude measurement of said isolated overtone signal resulting in an isolated overtone parameter signal.” Recall further that page 2 of the Office Action indicates that envelope builder 125 teaches this claim element.

Applicant’s review of Lindemann finds that “. . . amplitude envelope builder 125 generates an amplitude envelope which modifies intermediate tone 131, also in a time varying manner.” (Col. 7, lines 7-9). In contrast to the assertions set forth in the Action, Lindemann never describes envelope builder 125 as providing “amplitude measurement.” To the contrary, envelope builder 125 is described as generating an amplitude envelope, which has nothing to do with an “amplitude measurement.” Put another way, generating an amplitude envelope is not the same thing as providing amplitude measurement. Accordingly, envelope builder 125 cannot teach or suggest the “signal parameter measurement element” as recited by claim 1.

In the event that the rejection is maintained, Applicant respectfully requests that the Examiner explain how generating an amplitude envelope relates to “amplitude measurement.”

## **5. No fundamental frequency component or overtone component**

Claim 1 also recites an “incoming electronic signal comprising a fundamental frequency component and at least one overtone component of a higher frequency than said fundamental frequency component.”

Page 2 of the Action simply refers to Fig. 3 of the Lindemann reference as purportedly teaching this feature. This portion of the rejection is provided below:

Lindemann et al. disclose a system (figure 3) for control signal generation using detected dynamic characteristics of frequency components of an incoming electronic signal, said incoming electronic signal comprising a fundamental frequency component and at least one overtone component of a higher frequency than said fundamental frequency component, said fundamental frequency component and said at least one overtone component comprising an amplitude parameter and a pitch parameter, said

Applicant is unable to discern (because the rejection is silent) which signals of Fig. 3 purportedly provide the requisite teaching of the claimed “incoming electronic signal.” The identified figure depicts a number of components and signals.

Applicant further emphasizes that the claim explicitly recites that this electronic signal comprise a “fundamental frequency component and at least one overtone component.” To allow Applicant a fair opportunity to address the rejection, Applicant requests that the Examiner identify which portions of Fig. 3 disclose the claimed signal and components.

In view of the foregoing, Lindemann fails to teach or suggest a number of features recited in claim 1, and therefore this claim is believed to be patentable. Independent claims 42 and 83 include language similar to that of claim 1, and thus, are each believed to be patentable for

reasons similar to those discussed with regard to claim 1. The rejected dependent claims are believed to be patentable at least by virtue of their respective dependence on the patentable independent claims.

### **Rejection Under 35 U.S.C. §103(a)**

Claims 4-11, 20-24, 45, 47-52, and 61-65 stand rejected under 35 U.S.C. §103(a) as being unpatentable over Lindemann in view of Pattie and Frick. Claims 14-16, 55-57, and 89 stand rejected under 35 U.S.C. §103(a) as being unpatentable over Lindemann in view of Suzuki.

Applicant has demonstrated above that Lindemann does not teach or suggest various features recited in the rejected independent claims 1, 42, and 83. Applicant further submits that none of Pattie, Frick, or Suzuki supply any of the deficiencies of Lindemann. Therefore, for the reasons presented above, even if one skilled in the art were to combine the teachings of Lindemann and the asserted references in the manner alleged, each of the above-identified dependent claims would be patentable at least by virtue of their respective dependencies upon the patentable independent claims.

### **CONCLUSION**

In light of the above remarks, Applicant submits that the present Response places all claims of the present application in condition for allowance. Reconsideration of the application is requested.

If for any reason the Examiner finds the application other than in condition for allowance, the Examiner is requested to call the undersigned attorney at the Los Angeles, California,

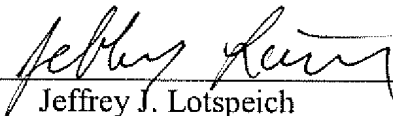


telephone number (213) 623-2221 to discuss the steps necessary for placing the application in condition for allowance.

Respectfully submitted,

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